

Application No.: PCT/JP2004/009672  
Docket No.: AD7026WOPCT

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Amendments to the Claims

1. (Currently Amended) A ball transfer unit comprising:
  - a) a main body having a seat surface recessed in a semispherical shape;
  - b) a plurality of small balls which are each in freely rolling contact with the seat surface of the main body,
  - c) a large ball which is in freely rolling contact with the plurality of small balls, and
  - d) a cover which is attached to the main body and is adapted for holding the large ball and for holding the small balls between the large ball and the seat surface of the main body;

wherein at least the main body and the large ball are made of a material selected from among PAI, PBI, PCTFE, PEEK, PEI, PI, PPS, melamine resins, aromatic polyamide resins, aluminum oxide, zirconium oxide and silicon nitride.

~~A ball transfer unit characterized by the following facts: the ball transfer unit has a main body having a seat surface recessed in a semispherical shape, multiple small balls rollingly in contact with the seat surface of the main body, a large ball rollingly in contact with multiple small balls, and a cover installed on the main body to hold the large ball and to hold small balls between the large ball and the seat surface of the main body, with at least the aforementioned main body and the aforementioned large ball being made of any material selected from PAI, PBI, PCTFE, PEEK, PEI, PI, PPS, melamine resin, aromatic polyamide resin, aluminum oxide, zirconium oxide, and silicon nitride.~~
2. (Currently Amended) The ball transfer unit of claim 1, wherein the main body, the small balls, and the large ball each have a Rockwell hardness H<sub>R</sub> of at least 75~~The ball transfer unit described in Claim 1, characterized by the fact that the Rockwell hardness H<sub>R</sub> of the aforementioned main body, small balls, and large ball is 75 or larger.~~
3. (Currently Amended) The ball transfer unit of claim 1, wherein the main body, the small balls and the large ball each have a heat deflection temperature, according to the ASTM D648 test, of at least 120°C~~The ball transfer unit described in Claim 1, characterized by the fact that the thermal deformation temperatures of the aforementioned main body, small balls, and large ball measured according to test standard ASTM D648 are all 120°C.~~
4. (Currently Amended) The ball transfer unit of claim 1, wherein the small balls are formed of the same material as the main body or the large ball~~The ball transfer unit described in any of Claims 1-3, characterized by the fact that the aforementioned small balls are made of the same material as the aforementioned large ball or main body.~~

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5. (Currently Amended) The ball transfer unit described in ~~any of Claims claim 1-3,~~  
~~characterized by the fact that~~ wherein the ball transfer unit is made of a single material.
6. (Currently Amended) The ball transfer unit described in ~~any of Claim 5,~~ characterized by the  
~~fact that~~ wherein the single material is PBI, PEEK, or PI.
7. (Currently Amended) The ball transfer unit of claim 1, wherein the small balls are  
formed of stainless steel ~~The ball transfer unit described in any of Claims 1-3, characterized~~  
~~by the fact that the aforementioned small balls are made of stainless steel.~~
8. (Currently Amended) The ball transfer unit of any one of claims 1 to 7, wherein the main  
body has an annular groove formed on an outer peripheral surface thereof, and wherein the  
cover has a tubular portion adapted to fit onto the main body so as to encircle the outer  
peripheral surface, and also has an annular catch which is formed on an inner peripheral side  
at a bottom end of the tubular portion, is elastically deformable in the radial direction and  
can engage the interior of the annular groove, which catch has an inside diameter that is  
smaller than the outside diameter of the main body ~~The ball transfer unit described in any of~~  
~~Claims 1-7, characterized by the following facts: the aforementioned main body also has an~~  
~~annular groove formed on its outer peripheral surface; the conventional cover has a~~  
~~cylindrical part fit to encircle the outer peripheral surface of the main body and an annular~~  
~~securing part that is capable of elastic deformation in the radial direction and is formed on~~  
~~the inner circle at the bottom of the cylindrical part to fit in the annular groove; and the~~  
~~internal diameter of the securing part is set to be smaller than the outer diameter of the main~~  
~~body.~~
9. (Currently Amended) The ball transfer unit ~~of described in any of Claims claim 1-8,~~  
~~further comprising~~ characterized by also having a through hole that penetrates through the  
main body and has its ~~wherein~~ one end being opened on the ~~aforementioned seat surface.~~
10. (Currently Amended) A ball table used for supporting a transported material, the ball  
table being comprised of a plurality of ball transfer units according to any one of claims 1 to 7  
and a supporting member in which the ball transfer units are fixed at predetermined intervals ~~A~~  
~~ball-table used for supporting a transported material characterized by having multiple ball~~  
~~transfer units described in any of Claims 1-7 and a support part wherein the ball transfer units~~  
~~are fixed at prescribed intervals.~~
11. (Currently Amended) The ball table of claim 10, wherein the transported material is a  
semiconductor wafer or a glass substrate for a flat panel display ~~The ball table described in~~  
~~Claim 10, characterized by the fact that the transported material is a semiconductor wafer of~~  
~~glass substrate for a flat panel display.~~